

ANALYSIS OF SLIPS AND FALLS AMONG WORKERS AT WORKPLACE

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ABSTRACT

Slips and falls are frequent incidents that occur everywhere either in an office, a school, a factory, a public building or a warehouse, inside and outside. This research focuses on slips and falls incident at workplace only because, workplace is an area that employees are not protected from such hazards. There are several factors that induce slips and fall incidents especially among workers. Although this incident seldom occur but the effect of this accident surely cause various kind problem either to victim or employer. The effects of slips and falls not only cause a small or simple injury, instead it might result in serious injuries such as permanent injury and also result in fatalities. Besides the injuries, the victim also have to support the medical cost and at the same time the victim will loose of their jobs or salary result of the slips and falls incident. Although victim may get their compensation claims from that accident, it would commensurate for victim or victim's family. Because of such reason, this project will identify the main cause of slips and falls incident among workers at workplace. This project will produce some of suggestion or guidelines that have been identified to overcome the causes of slips and falls.

ABSTRAK

Tergelincir dan terjatuh adalah merupakan satu kejadian yang kerap berlaku di mana- mana sahaja sama ada di pejabat, sekolah di dalam ataupun di luar bangunan. Namun, bagi tujuan kajian ini difokuskan kejadian tergelincir dan terjatuh di kawasan tempat kerja kerana ia adalah satu tempat yang boleh menyebabkan para pekerja terdedah kepada pelbagai jenis bahaya. Terdapat pelbagai faktor yang menjadi punca utama berlakunya kejadian tergelincir dan terjatuh dikalangan para pekerja. Walaupun masalah ini jarang-jarang berlaku namun kesan daripada kemalangan ini pasti menyebabkan pelbagai masalah kepada mangsa mahupun pihak majikan. Kejadian tergelincir dan jatuh ini bukan sahaja menyebabkan kecederaan ringan namun boleh mengakibatkan kecederaan kekal malahan sehingga membawa kepada kematian. Selain daripada kecederaan yang terpaksa ditanggung oleh mangsa, kos perubatan atau kos rawatan juga menyebabkan masalah ini menjadi serius dan mangsa juga akan kehilangan mata pencarian akibat daripada masalah tergelincir dan terjatuh ini. Walaupun mangsa mendapat pampasan ataupun bayaran ganti rugi di atas kemalangan yang menimpanya, namun adakah ia berbaloi untuk mangsa mahupun keluarga mangsa. Oleh sebab itulah, projek ini diilhamkan untuk mengenal pasti punca-punca utama berlakunya masalah tergelincir dan terjatuh dikalangan para pekerja khususnya di tempat kerja. Seterusnya cuba mengatasi semua punca-punca tersebut seminima mungkin dan memberikan beberapa cadangan untuk penambahbaikan kepada garis panduan yang telah sedia ada.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

Study about slips and falls are very interesting. The reason because slips and falls are an intriguing problem. These are common incidents and can cause everywhere either in an office setting, a school, a factory, a public building or a warehouse, inside and outside. Slips usually occur as a result of too little friction or traction between footwear and the walking surface, or tires and the road in the case of sliding accidents and the most important is afflicting to human life from childhood until old age. Slips and falls whether on or off the job are expensive, disruptive, painful, and may be tragic. Although, the number of cases in Malaysia is less but the impact will create lots of losses and become serious in the long term.

Slips and falls are among the most frequent types of accidents in the workplace. Slips and falls can result in serious injuries including fractures, sprained joints, back injuries, contusions and lacerations. These injuries cause a lot of pain and suffering and sometimes result in death. Employees working daily almost 8 hours and above. During this period, they uncovered from any hazard and accident can occur because at workplace there are employees, machine, equipment and so on.

In this case, the workplace have high potential and risk to attend the hazard and cause the injuries to the employees. If the employees are not sensitive or avoid the safety rules or wear proper safety apparatus, they might be the victims of slips and fall accident.

Besides injuries, employer may face the loss of manpower. Their employees might not fit well to their jobs and get the medical certificate or leave the jobs. So by that time factory will face the less manpower especially if it involve skill workers. So these problems will affect the production department. On the other hand, if there are a lots of slips and falls problems, the company also could spent plenty of money for compensation claim from employees.

So, this study is carried out to identify the factors why slips and falls occur at work place. What are the main causes of slips and falls? Why these accident happen and how to reduce the number of cases? From the result of study, some rules can be produced useful to industries hence reduce their loss of human power at their work place or other work that can reduce their loss of employees.

This study is important because slips and falls not only happen among employees but it might happen to employers because those who work at the workplace could have potential to involve in such accident. As human, accident cannot be avoided but human can reduce it or take a first step to prevent it from occurring especially at workplace because workplace is an area that most people would spend their day time there.

The outcome of the study, some guidelines or rules can be identified to reduce these accidents or establish the preventive measures of slips and falls at the workplace.

1.2 Problems statement

Slip and fall are one of the frequent types of accident at workplace. Although such accident is not a major accident but slip and fall can contribute to serious impact when it occurs especially to people or employees.

Normally employees are trained when they enter a workplace. Employer will give them training about safety and supply them with proper clothes or safety clothes suitable to their tasks. Even though they are trained and wear proper clothes, accidents still occur at workplaces especially in manufacturing industries. Why do this accident still exist? Sometimes the number of such accident increase every year and it become more serious when there are fatalities.

Table 1.1 shows in 2006 there are 786 cases of falls, which is 18% of the total. However in 2007 it reduced to 659 falling cases but its percentage increased to 20%. In 2008 the percentage was reduced to 458 cases which was 18.1% and in 2009 the cases recorded until June shows 172 cases on 14.4%. From the data, falls is one of critical types of accident that give high number of cases compare to other types of accident. The record shows that falling problems is a serious occurrence in manufacturing industry and will effect employees at their workplace.

Table 1.1 : Types of Accident from Year 2006 until June 2009

(Source: Department of Occupational Safety and Health - DOSH)

Year 2006		Year 2007	
Types of Accident	No. of Case	Types of Accident	No. of Case
Unclassified due to lack of data	40	Unspecified due to lack of data	32
Fall of person	786	Fall of person	659
struck by falling object	394	Struck by falling object	413
Stepping on, striking against or struck by object	1012	Stepping on, striking against or struck by object	636
Caught in or between object	1133	Caught in or between objects	989
Overexertion or strenuous movement	83	Strenuous movement	86
Contact or exposure to extreme temperature	156	Contact or exposure to extreme temperature	118
Contact or exposure to electrical current	23	Contact or exposure to electrical current	32
Contact or exposure to dangerous substances	55	Contact or exposure to dangerous substances	58
Other type of accident n.e.c.	681	Other types of accident, n.e.c	236
Total	4363	Total	3259

Year 2008		Year 2009 until June	
Types of Accident	No. of Case	Types of Accident	No. of Case
No data	4	Fall	172
Fall	458	Struck by falling object	161
Struck by falling object	290	Stepping on, striking against or struck by objects	244
Stepping on, striking against or struck by objects	497	Caught in or between objects	295
Caught in or between objects	710	Overexertion or strenuous movements	101
Overexertion or strenuous movements	166	Exposure to or contact with extreme temperatures	72
Exposure to or contact with extreme temperatures	120	Exposure to or contact with electric current	21
Exposure to or contact with electric current	25	Exposure to or contact with harmful substances	32
Exposure to or contact with harmful substances	54	Other types of accident, n.e.c	92
Other types of accident, n.e.c	208	Total	1190
Total	2532		

Are the increasing injuries shows that employers are not serious in safety and health for their employees or employees ignore safety rules? These two factors are difficult to establish. Sometimes action taken by employer is very good and employee also done their task very well. But accident still exist. Who want to take a responsibility to this problem either the employers or the employees.

Thus, slips and falls should be reduced because they are not good for human health and safety. So, this study want to identify what are the factors or causes of

slips and falls especially at workplace, how to reduce or prevent it from occurring, and at the end some rules can be listed for use as guidelines in industries to help them control and reduce the slips and falls accident at their workplace.

1.3 Background to the problems

From the problems statement mentioned in Section 1.2, there are a lots of accident occur in manufacturing field or more specific in factories. All these accident definitely cause the workplace injuries to employees.

Table 1.2a to Table 1.2d shows the types of body injuries from 2006 until June 2009. These data from Department of Occupational Safety and Health (DOSH), Malaysia are for those accidents that occur in manufacturing industry. Although the total number of the cases are reduced every year, but injuries are accounted for. These body injuries data are referred to slips and falls problems.

Table 1.2, nobody can say that he or she will escape from slips and falls incident. Slips and falls problems are common incident and can cause anywhere and anytime. This problem can also occur to anybody without exception.

Table 1.2 : Types of body Injuries from Year 2006 until June 2009

(Source: Department of Occupational Safety and Health - DOSH)

Table 1.2 (a) : Year 2006

Types of body Injuries	No. of Case
Head	10
Face	10
Neck	1
Trunk	3
Back	16
Chest	3
abdomen	1
Upper limb	3
Shoulder	10
Upper arm	3
Elbow	4
Forearm	3
Wrist	5
Hand	35
Finger	21
Lower limb	12
Knee	23
Leg	41
Foot, ankle or toe	48
Multiple location	27
General injuries	1
Other locations n.e.c.	2
Total	282

Table 1.2 (b) : Year 2007

Types of body Injuries	No. of Case
Unspecified due to lack of data	6
Head	15
Neck	1
Trunk	15
Upper Limb (except fingers)	49
Fingers	9
Lower limb	61
Multiple location	16
General injuries	7
Unspecified due to lack of data	1
Total	180

Table 1.2 (c) : Year 2008

Types of body Injuries	No. of Case
Head	9
Neck	2
Trunk	4
Upper limb	32
Fingers	8
Lower limb	39
Multiple locations	10
Other injuries, n.e.c	1
Total	105

Table 1.2 (d) : Year 2009(up to 31st June)

Types of body Injuries	No. of Case
Head	2
Neck	1
Trunk	4
Upper limb	13
Fingers	2
Lower limb	21
Multiple locations	4
Other injuries, n.e.c	1
Total	48

Table 1.3 shows that “Accident The Body Part Injured” for more than 9 in 10 permanent disablements (94%) reported in 2007 and this involved the upper limb, predominantly hands (including fingers). Around 5.5% of the victims sustained permanent injuries localized to the lower limb, down from 7.7% as compared to the previous year.

Table 1.3 : Number of Permanent Disablements by Body Part Injured, Year 2006 and 2007

(Source: Occupational Safety and Health Division, Singapore Ministry of Manpower- MOM)

Body Part Injured	2007	2006
Total	163	160
Upper Limb	151	155
Hands (including fingers)	150	149
Shoulder / Arm	4	1
Multiple Locations	-	5
Lower Limb	9	13
Foot (including toes)	6	8
Leg (including ankle)	3	7
Multiple Locations	-	3

Table 1.2 and Table 1.3 clearly defined that slips and falls problems are not suitable for occupational safety and health. The causes slips and falls to be known as risk factors. The greater the number of risk factors to which an individual is exposed, the greater the probability of a fall, and the more likely the results of the fall that will threaten the person's health and independence.

Illnesses and physical conditions, whether related to aging or not, can affect our strength and balance and contribute to a fall. Failure to exercise regularly can be a factor too, because it results in poor muscle tone, decreased strength, and loss of bone mass and flexibility. These could affect our physical and mental condition.

For example, when somebody slip and fall, the person will experience pain on particular parts of the body. This injury might not be on the outer portion of the body but may cause in deep or inside of the body such as problem in blood vessels. This illness has to be treated immediately and it may affect the brain if the blood vessels do not deliver adequate blood to the brain.

1.4 Terminologies of slips and falls

1.4.1 Slip

A sliding motion where the foot (shoe) losses traction with the floor surface resulting in a loss of balance.

1.4.2 Fall

A drop in height of the human body.

1.4.3 Trip

Involves a loss of balance when the natural movement of the foot is interfered with momentarily.

1.5 Objective of study

The main objectives of this project are:

- a) To identify and determine the main causes of slips.
- b) To analyze the relationship between the selected sources of slips.
- c) To compute the monetary losses by employees due to slips and falls incidents (A case study).
- d) To establish the guidelines for factories to reduce the slips and falls accident from occurring.

The main objective of this study is to identify and determine the main causes of slips. Through this objective, a survey will be done to identify and determine what is the main cause of slips to human when walk on that floor surface at the selected company.

The second objective is to analyze the relationship between the selected sources of slips. This objective will use the floor surface as a basic factor but will be added with other factor for example wet floor. What causes wet floor, with either water or oil. So through these added factors combined with floor factor will initiate experiments to study their relationship between those factors.

The third objective is to compute the losses of employees. This objective want to study about the effect and impact to the employees when slips and falls occur. If this problem occur, some losses will be faced. Employees should take a medical leave, the factory will loose their employees, and they have to pay a claim and insurance that will cover injuries. So this objective would highlight the causes after the slips and falls problem occur.

The fourth objective is to establish the guidelines for factory to reduce the slips and falls accident from occurring. After all the three objective will achieve, some rules or guidelines will be held to help the factories to overcome slips and falls problems.

1.6 Scope of study

This project cover:

- a) Slips and falls incidents occur on the same level only.
- b) Concentrate on adult male working population.
- c) The study involve manufacturing industry (A case study).

1.7 Organization of Thesis

Chapter 1, explained the introduction and background of the slips and falls incidents especially at work place. Chapter 2, the literature review will discuss on slips and falls some information on its theories, types of fall and some case studies related to slips and falls. Chapter 3 consists of methodology about how to apply and carries out the analysis. This chapter provides the development of questionnaire to obtain results. Chapter 4 provides the results of experiment and analysis that have been used. Chapter 5 included discussion. Chapter 6 is about project conclusion recommendations for future work.

1.8 Conclusion

This chapter provides an introduction on slips and falls. The main purpose of doing this based on the problem statement have been stated clearly. Next chapter will discuss the literature review of this study.

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